

Claims

1. A method for target device discovery on a network, comprising:
 - multicasting a signal from a master initiator over the network;
 - determining if a previously registered target re-registered with the master initiator
- 5 by a unicast to the master initiator;
 - maintaining the previously registered target on a list of active targets connected to the network; and
- 10 sending out a next multicast with information regarding the previously registered target to notify other initiators to maintain the previously registered target on the list of targets.
2. A method for peripheral device discovery on a network as recited in claim 1, wherein the other initiators maintain the previously registered target on initiator target lists in response to the next multicast.

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3. A method for target device discovery on a network as recited in claim 1, wherein the master initiator is elected by comparing device identification numbers of a plurality of initiators connected to the network, the master initiator having the highest device identification number.

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4. A method for target device discovery on a network as recited in claim 1, wherein the signals from the master initiator is in a form of master identification packets.

5. A method for target device discovery on a network as recited in claim 1,
wherein the next multicast has a sequence number greater by one than a previous
sequence number.

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6. A method for target device discovery on a network as recited in claim 5
wherein each of the other initiators determines if the signal has been missed by comparing
information included within the signal with information contained within the next
multicast.

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7. A method for target device discovery on a network as recited in claim 6,
wherein each of the other initiators requests target information contained in the signal
when the sequence number of the next multicast is greater than the previous sequence
number of the signal and no new target information is received in connection with the
15 next multicast.

8. A method for target device discovery on a network as recited in claim 1,
wherein the sending out occurs on a periodic basis.

20 9. A method for target device discovery on a network as recited in claim 1,
wherein the network is one of an iSCSI network, an eSCSI network, a TCP/IP network,
and an Ethernet network.

10. A method for target device discovery on a network as recited in claim 1,
wherein the previous registered target re-registers by unicasting information to the master
initiator on a periodic basis.

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11. A method for target device discovery on a network, comprising:
multicasting a signal from a master initiator over the network;
receiving a unicast from a new target recently connected to the network, the new
target being passive when no multicast signal from the master initiator is received;
10 adding the new target to a list of targets connected to the network; and
sending out a next multicast to other initiators, the next multicast including
information regarding the adding of the new target to the network.

12. A method for target device discovery on a network as recited in claim 11,
15 wherein the network is one of an iSCSI network, an eSCSI network, a TCP/IP network,
and an Ethernet network.

13. A method for peripheral device discovery on a network as recited in claim
11, wherein the other initiators add the new target to initiator target lists.

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14. A method for target device discovery on a network as recited in claim 11, wherein the master initiator is elected by comparing device identification numbers of a plurality of initiators connected to the network, the master initiator having the highest device identification number.

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15. A method for target device discovery on a network as recited in claim 11, wherein the device identification number is a global unique identification (GUID) number.

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16. A method for target device discovery on a network as recited in claim 11, wherein the signal from the master initiator is in a form of master identification packets.

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17. A method for target device discovery on a network as recited in claim 11, wherein the next multicast has a sequence number greater by one than a previous sequence number.

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18. A method for target device discovery on a network as recited in claim 17 wherein each of the other initiators determines if the signal has been missed by comparing information included within the signal with information contained within the next 20 multicast.

19. A method for target device discovery on a network as recited in claim 18,
wherein each of the other initiators requests target information contained in the signal
when the sequence number of the next multicast is greater than the previous sequence
number of the signal and no new target information is received in connection with the
next multicast.

20. A method for target device discovery on a network as recited in claim 11,
wherein the sending out occurs on a periodic basis.

10 21. A method for target device discovery on a network, a master initiator
including program instructions for:

multicasting a signal over the network, the multicasting configured to be triggered
continually at a predetermined interval;

receiving a unicast from a new target recently connected to the network, the new
target being passive and configured to wait for a multicast signal from a master initiator;

adding the new target to a list of targets, the adding occurring in response to the
directed unicast signal;

determining if a previously registered target re-registered with the master initiator;
and

20 maintaining the previously registered target on the list of targets;

wherein the multicasting transmits information regarding the maintaining and the
adding of targets to the network.

22. A method for target device discovery on a network as recited in claim 21,
wherein the previous registered target re-registers by unicasting information to the master
initiator on a periodic basis.

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23. A system for target device discovery on a network comprising:
a master initiator, the master initiator configured to send a multicast throughout
the network;

at least one target, the at least one target configured to remain passive until a
multicast is received from the master initiator; and

at least one slave initiator, the at least one slave initiator configured to receive
target information from the multicast;

wherein the master initiator polls the at least one target by way of the multicast,
and the at least one target responds to the multicast through use of a unicast directed to
the master initiator.

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24. A system for target device discovery on a network as recited in claim 23,
wherein the at least one slave initiator is configured to unicast to the master initiator a
request to resend information if a multicast with updated target information was not
received by the at least one slave initiator.

25. A system for target device discovery on a network as recited in claim 24, wherein the at least one slave initiator is configured to determine if the multicast with updated target information was not received by examining a sequence number of each multicast to determine if a previous multicast was missed.

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26. A system for target device discovery on a network as recited in claim 25, wherein the previous multicast was missed when a last sequence number from a last multicast has incremented and no updated target information has been received.

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27. A system for target device discovery on a network as recited in claim 23, wherein the network is one of an iSCSI network, an eSCSI network, a TCP/IP network, and an Ethernet network.

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